TASK ORDER (TO)

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Joint Warfighting National Mission Initiative (JWNMI)

in support of:

Joint Artificial Intelligence Center (JAIC)

Awarded to:
Booz Allen Hamilton
8283 Greensboro Drive
McLean, VA 22102

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C.1 BACKGROUND

The Joint Artificial Intelligence Center (JAIC) was chartered by the Secretary of Defense to accelerate the Department of Defense's (DoD) pursuit of Artificial Intelligence (AI) capabilities and to synchronize DoD AI activities to the Joint Force. To achieve that mission, JAIC has established six National Mission Initiatives (NMIs) to address urgent joint challenges. The Joint Warfighting National Mission Initiative (JWNMI) provides mission partners with AI-enabled capabilities that can potentially inform a new generation of combat operations and planning. The JAIC Joint Warfighting (JW) was established as an NMI in May 2019 to address the following:

a. Increase the DoD's effectiveness through significant increases in the use of autonomous systems.
b. Shift the DoD's warfare preparations from industrial to information based.
c. Improve the DoD's ability to coordinate and collaborate across the organizations, drive efficiencies, promote integration, and share knowledge and data.

C.1.1 PURPOSE

The purpose of this requirement is to deliver open architecture technical services and products (software and/or hardware) across the full spectrum of AI-enabled capabilities to support the JWNMI. The JAIC requires data labeling, data management, AI development, and the ability to transition completed AI products into new and existing fielded programs and systems. This requirement is not focused on any singular capability but rather the full spectrum of AI-enabled capabilities to support the JW Mission.

C.1.2 AGENCY MISSION

The JAIC is the DoD's AI Center of Excellence that provides a critical mass of expertise to help the DoD harness the immense power of AI. The JAIC assists the DoD with operational AI preparation by integrating technology development with the requisite policies, knowledge, processes, and relationships to ensure long-term success and scalability.

The mission of the JAIC is to transform the DoD by accelerating the delivery and adoption of AI to achieve mission impact at scale. The goal is to use AI to solve large and complex problem sets that span multiple services; then, ensure the services and components have real-time access to ever-improving libraries of data sets and tools. The JAIC's holistic approach includes:

a. Accelerating the delivery and adoption of AI.
b. Scaling the impact of AI across the DoD.
c. Defending the United States' (U.S.) critical infrastructure from malicious cyber activity that alone, or as part of a campaign, could cause a significant cyber incident.
d. Establishing a common foundation that enables decentralized execution and experimentation.
e. Evolving partnerships with industry, academia, allies, and partners.
f. Cultivating a leading AI workforce.
g. Leading in military AI ethics and safety.

The JAIC delivers AI capabilities to the DoD through two distinct categories: NMIs and Component Mission Initiatives (CMIs). NMIs are broad, joint, hard, cross-cutting AI/Machine

Learning (ML) challenges that the JAIC will run using a cross-functional team approach. The CMIs are component- specific and solve a particular problem. CMIs will be run by the components, with support from JAIC in a number of ways that include funding, data management, common foundation, integration into programs of record, and sustainment.

C.2 SCOPE

The contractor shall deliver the technical and engineering stages of the system lifecycle necessary to build AI-enabled capabilities for the Joint Warfighter. The contractor shall provide data labeling, data management, and AI (traditional and non-traditional DoD) expertise and transition completed AI products into existing and new fielded programs and systems. The contractor shall support the team and its strategic partners from conceptualization of new ideas through the fielding of new systems or the integration of new modules into existing systems. This effort will support the JAIC, DoD partners to include interagency AI stakeholders within the Intelligence Community (IC), and coalition partners.

C.3 CURRENT INFORMATION TECHNOLOGY (IT)/NETWORK ENVIRONMENT

Solutions shall reflect that training data and AI development will be kept on the Joint Common Foundation (JCF), a Government-owned For Official Use Only (FOUO) network. The contractor will be provided with office space.

Currently the JCF is running on the Hanscom milCloud (HmC) with Virtual Private Cloud (VPC)/Azure Virtual Network (Vnet) enclaves available to specific projects in Amazon Web Services (AWS) or Azure. JCF users must obtain an account with HmC utilizing a short online process. The contractor will have access to Virtual Machines (VMs) and software tools through the HmC interface, which requires a Common Access Card (CAC) for authentication/authorization and can be accessed from any internet-connected computer. Access will be granted to environments and sub-environments by the Government as needed. The contractor will be able to utilize a set of available Operating Systems (OS) and VM types that will be provisioned for its use. From these environments, the contractor will have access to project-specific data and will be able to import software and data through the JCF data and software ingest pipelines. Orchestration tools are available to move data, algorithms, code, and artifacts between projects environments in a secure and automated fashion. All data, code, and artifacts can move in one direction through the pipeline and nothing may be extracted from the JCF environment other than finished products to be deployed.

The DoD has directed that an open standards system approach be used, to the maximum extent practical, as an approach to achieving superior war fighting capability with reduced total operating costs. Open standards systems are expected to control development costs, provide quicker access to emergent technologies, significantly improve network performance, and reduce the costs to maintain and upgrade network systems over ever increasing lifetimes.

C.4 OBJECTIVE

The overall objective of this effort is to assist JAIC in enabling the warfighter to solve current and future strategic, operational, and tactical problems through AI. AI-enabled operations should improve Joint Force functions in ways that we know to be relevant, such as making operational functions faster, more accurate, and more synchronized. In addition, AI-enabled operations should help the Joint Force to improve in ways not yet well-understood. AI-enabled decision

making should help the Joint Force beyond the capacity of human-centered operational planning to the point where human-machine integration provides the Joint Force with a decisive edge against any adversary.

When combined, the AI-enabled capabilities delivered under this TO will solve current Joint Force problems and will also illuminate new approaches. AI-enabled systems improve with use and the influx of data during use. Overall, the Joint Force should be able to leverage AI capability to increase the rate at which the Joint Force evolves.

In the future, the JCF will be deployed to the Joint Enterprise Defense Infrastructure (JEDI). The network design will remain largely the same as the JCF, and it is anticipated that the contractor will be able to seamlessly transition its work to JEDI when it becomes operational. The JCF team will provide direction to the contractor to build capabilities in line with the maturation of the JCF.

The specific outcomes for this effort are to:

a. Support the development of AI models and tools to be integrated into existing and new DoD systems in support of specific problems currently facing the joint force.
b. Enable actual capability delivery by ensuring that developed AI capabilities are integrated into the DoD end user environment through the use of an Agile Software Development and IT Operations (DevOps)-centered framework for all projects.
c. Develop and integrate AI capabilities in a manner that leverages current market capabilities and emerging industry technologies.

C.4.1 APPLICABLE STANDARDS

It is expected that documentation accompanying JAIC AI/ML products will address how the development of the product considered and achieved/mitigated the issues raised within the Secretary of Defense Guidance Memo on AI Ethics principles. These principles are as follows:

a. **Responsible**. DoD personnel will exercise appropriate levels of judgment and care, while remaining responsible for the development, deployment, and use of AI capabilities.
b. **Equitable**. The Department will take deliberate steps to minimize unintended bias in AI capabilities.
c. **Traceable**. The Department's AI capabilities will be developed and deployed such that relevant personnel possess an appropriate understanding of the technology, development processes, and operational methods applicable to AI capabilities, including with transparent and auditable methodologies, data sources, and design procedure and documentation.
d. **Reliable**. The Department's AI capabilities will have explicit, well-defined uses, and the safety, security, and effectiveness of such capabilities will be subject to testing and assurance within those defined uses across their entire life-cycles.
e. **Governable**. The Department will design and engineer AI capabilities to fulfill their intended functions while possessing the ability to detect and avoid unintended consequences, and the ability to disengage or deactivate deployed systems that demonstrate unintended behavior.

C.5 TASKS

The contractor's TO governance structure shall be scalable to effectively support a multi-tenant environment. The Government anticipates that the contractor shall use a Work Breakdown Structure (WBS) during the performance of the TO. During the life of the TO, the Government will require varying levels of support on behalf of the JAIC and its strategic partners. The Government requires a high degree of administrative tracking of discrete work packages in the WBS.

The following tasks are intended to cover the scope of work that the JAIC anticipates for JWNMI. Specific work products within the work scope may shift based on needs. Specific work within the scope and tasks of the JWNMI TO will be directed by the JAIC and its partners through a JWNMI Technical Direction Letter (TDL) (Section J, Attachment X), as specified in Section H.19, to identify and track operational support needs. The FEDSIM Contracting Officer (CO) will issue the TDL and provide written confirmation and approval that each TDL is within the JWNMI TO scope of requirements. The contractor shall provide all expertise and services as stated in the TO to deliver the integrated technical services.

TDLs will be initiated at varying times within a period of performance, consisting of various appropriation types (e.g., one-year, two-year, or no-year), depending on the bona fide need.

Specific tasks under the TO include:

a. Task 1 – Provide Program Management
b. Task 2 – Provide AI Engineering and Integration Support
c. Task 3 – Data Labeling and Pipeline Management
d. Task 4 – Provide Program Integration, Training, and End User Support
e. Task 5 – Acceleration of Emerging AI Technologies Research and Integration
f. Task 6 – JCF Infrastructure Support (Optional)

Task 1, Provide Program Management, is applicable for the entirety of the TO. The entire TO is the "program" and JAIC and its mission partners will submit individual requirements as projects within the scope of the Performance Work Statement (PWS). For each project, the Government will provide the contractor with a TDL that details the expectations and outcomes associated with that specific project. A sample TDL template can be found in Section J, Attachment X. The contractor shall provide a Technical Direction Plan (TDP) (**Section F, Deliverable 18**) for the execution of all requirements as specified in the TDL. The Government anticipates that TDLs will be issued in the areas identified in the table below and as detailed in Section J, Attachment P.

Product lines, or lines of effort, (Section J, Attachment P) under this contract, include, but are not limited to the following:

Line of Effort	Description
Joint All Domain Command and Control (JADC2) Utilization	Focuses on the improvement of cognitive capacity of the command by automating data-intense workflows and functions within the staff so the commander can decide on the optimal course of action and then issue detailed direction at the maximum rate of human functionality.

Line of Effort	Description
Overmatch	Focuses on achieving "overmatch" by ensuring that U.S. combat systems are faster, more precise, integrated, and generate more power at the decisive point than opposing enemy systems.
Joint Fires Implementation	Includes the accelerated detection, fusion, and identification of targets in order to decrease the time from when a threat is detected by a sensor to when it is engaged by a warfighter.
Electro Magnetic Spectrum (EMS)	Includes the development of AI-enabled electromagnetic warfare systems that will help the Joint Force to operate and win in an electromagnetically degraded environment.
Strategic Mobility	Includes the development of AI enabled strategic lift and logistics, force management, and dynamic force employment, to enable strategic mobility and Joint operations.

C.5.1 TASK 1 – PROVIDE PROGRAM MANAGEMENT

The contractor shall provide program management support under this TO. This includes the management and oversight of all activities performed by contractor personnel, including subcontractors, to satisfy the requirements identified in this Performance Work Statement (PWS). Each product line is expected to have a project management team and associated documentation in support of JAIC processes.

C.5.1.1 SUBTASK 1 – IMPLEMENT A TASK ORDER MANAGEMENT PORTAL

The contractor shall implement a TO management web portal (**Section F, Deliverable 02**) capability that provides project management views/reporting, tracks metrics, and stores artifacts at the unclassified level. The objective of the portal is to provide a central location for the Government and contractor to access management-level information regarding the status and health of TO activities.

At a minimum, the portal shall provide the following:

a. Secure logical access controls with role-based views (e.g., Contracting Officer's Representative (COR), Technical Point of Contact (TPOC), and tenant).
b. A dashboard that identifies each TDL being supported along with its associated TDP and includes the following:
    1. TDL Identification (ID) number
    2. Client Name
    3. TDL Name
    4. Abbreviated work description
    5. Customer Point of Contact (POC) information
    6. Contractor POC information
    7. TDL start date
    8. TDL end date
    9. Allocated budget by CLIN
    10. Funded amount by CLIN

11. Incurred cost amount by CLIN
12. Invoiced amount by CLIN
13. Burn Rate by CLIN

c. An automated workflow for Government review/approval of Requests to Initiate Purchase (RIPs)/Consent to Purchase (CTP) and Travel Authorization Requests (TARs), inclusive of the JAIC TPOC(s) and Federal Systems Integration and Management Center (FEDSIM) COR.
d. The ability to view financial information to allow the Government to track each effort's financial health. The Government will establish the level of granularity needed at the onset of an effort (e.g., TDL, funding document, or line of accounting level).
e. An organized document library to store management related deliverables (e.g., Monthly Status Reports (MSRs), Project Management Plan (PMP), etc.).

The portal shall be operational by the end of the transition-in period. The portal capabilities are expected to evolve and adapt to meet the mission needs of the Government.

C.5.1.2 SUBTASK 2 – ACCOUNTING FOR CONTRACTOR MANPOWER REPORTING

The contractor shall report ALL contractor labor hours (including subcontractor labor hours) required for performance of services provided under this contract for the JAIC via a secure data collection site: the Enterprise Contractor Manpower Reporting Application (ECMRA). The contractor shall completely fill in all required data fields using the following web address: http://www.ecmra.mil/.

Reporting inputs will be for the labor executed during the PoP during each Government Fiscal Year (FY), which runs October 1 through September 30. While inputs may be reported any time during the FY, all data shall be reported No Later Than (NLT) October 31 of each calendar year. Contractors may direct questions to the support desk at: http://www.ecmra.mil/.

Contractors may use Extensible Markup Language (XML) data transfer to the database server or fill in the fields on the website. The XML direct transfer is a format for transferring files from a contractor's systems to the secure website without the need for separate data entries for each required data element at the website. The specific formats for the XML direct transfer may be downloaded from the web.

C.5.1.3 SUBTASK 3 – COORDINATE A PROJECT KICK-OFF MEETING

The contractor shall schedule, coordinate, and host a Project Kick-Off Meeting at the location approved by the Government (**Section F, Deliverable 05**). The meeting shall provide an introduction between the contractor personnel and Government personnel who will be involved with the TO. The meeting shall provide the opportunity to discuss technical, management, and security issues, and travel authorization and reporting procedures. At a minimum, the attendees shall include Key contractor Personnel, representatives from the directorates, the JAIC TPOC, other relevant Government personnel, and the FEDSIM COR.

At least three days prior to the Kick-Off Meeting, the contractor shall provide a Kick-Off Meeting Agenda (**Section F, Deliverable 04**) for review and approval by the FEDSIM COR and

the JAIC TPOC prior to finalizing. The agenda shall include, at a minimum, the following topics/deliverables:

a. POCs for all parties.
b. Personnel discussion (i.e., roles and responsibilities and lines of communication between contractor and Government).
c. Staffing Plan and status.
d. Transition-In Plan (**Section F, Deliverable 07**) and discussion.
e. Security discussion and requirements (i.e., building access, badges, CACs).
f. Invoicing requirements.
g. Baseline Quality Management Plan (QMP) (**Section F, Deliverable 08**).
h. Service Level Agreements (SLAs) and Performance Metrics (**Section F, Deliverable 09**).
i. Earned Value Management (EVM) Plan (**Section F, Deliverable 10**).

The Government will provide the contractor with the number of Government participants for the Kick-Off Meeting, and the contractor shall provide sufficient copies of the presentation for all present.

The contractor shall draft and provide a Kick-Off Meeting Minutes Report (**Section F, Deliverable 06**) documenting the Kick-Off Meeting discussion and capturing any action items.

C.5.1.4 SUBTASK 4 – PREPARE A MONTHLY STATUS REPORT (MSR)

The contractor shall develop and provide an MSR (Section J, Attachment F) (**Section F, Deliverable 11**). The MSR shall include the following:

a. Activities during reporting period, by TDL (include ongoing activities, new activities, and activities completed, and progress to date on all above mentioned activities). Each section shall start with a brief description of the task.
b. Problems and corrective actions taken. Also include issues or concerns and proposed resolutions to address them.
c. Personnel gains, losses, and status (security clearances).
d. Government actions required.
e. Schedule (show major tasks, milestones, and deliverables; planned and actual start and completion dates for each).
f. Summary of trips taken or conferences attended (attach Trip Reports (**Section F, Deliverable 15**) to the MSR for reporting period).
g. EVM statistics.
h. Cost incurred by CLIN and TDL.
i. Accumulated invoiced cost for each CLIN and TDL up to the previous month.
j. Projected cost of each CLIN and TDL for the current month.

C.5.1.5 SUBTASK 5 – EARNED VALUE MANAGEMENT (EVM)

The contractor shall employ and report on EVM in the management of this TO using a tailored plan consistent with its technical approach. See Section H.9, Earned Value Management, for the EVM requirements.

C.5.1.6 SUBTASK 6 – CONVENE TECHNICAL STATUS MEETINGS

The contractor Program Manager (PM) shall convene a monthly Technical Status Meeting with the JAIC TPOC, FEDSIM COR, and other Government stakeholders (**Section F, Deliverable 12**). The purpose of this meeting is to ensure all stakeholders are informed of the monthly activities and MSR, provide opportunities to identify other activities and establish priorities, and coordinate resolution of identified problems or opportunities. These meetings shall provide an opportunity to share lessons learned across TDLs and disseminate best practices across TDLs. The contractor PM shall provide minutes of these meetings (**Section F, Deliverable 13**), including attendance, issues discussed, decisions made, and action items assigned, to the FEDSIM COR.

C.5.1.7 SUBTASK 7 – PREPARE AND UPDATE A PROJECT MANAGEMENT PLAN (PMP)

The contractor shall document all support requirements in a PMP (**Section F, Deliverable 14**) and shall provide it to the Government.

The PMP shall:

a. Describe the proposed management approach.
b. Contain detailed Standard Operating Procedures (SOPs) for all tasks.
c. Include milestones, tasks, and subtasks required in this TO.
d. Provide for an overall WBS with a minimum of three levels and associated responsibilities and partnerships between Government organizations. The WBS shall be updated as needed and with the addition of each TDL. A WBS update does not require the re-submission of a PMP update.
e. Describe in detail the contractor's approach to risk management under this TO.
f. Describe in detail the contractor's approach to communications, including processes, procedures, communication approach, and other rules of engagement between the contractor and the Government.
g. Include the contractor's QMP and EVM Plan.
h. Highlight common technical architecture and custom architecture used for product development.
i. Describe interaction and reuse.

The PMP is an evolutionary document that shall be updated annually, at a minimum, and as project changes occur. The contractor shall work from the latest Government-approved version of the PMP.

C.5.1.7.1 PREPARE AND UPDATE AN INTEGRATED MASTER SCHEDULE (IMS)

The contractor shall generate and update IMSs for each product (**Section F, Deliverable 03**), identifying resources, establishing critical path items, and addressing schedule conflicts and risks. The contractor shall synchronize the IMS with other product IMSs across the program portfolio.

C.5.1.8 SUBTASK 8 – PREPARE TRIP REPORTS

The Government will identify the need for a Trip Report (**Section F, Deliverable 15**) when the request for travel is submitted. The contractor shall keep a summary of all long-distance travel including, but not limited to, the name of the employee, location of travel, duration of trip, and POC at travel location. Trip reports shall also contain Government approval authority, total cost of the trip, a detailed description of the purpose of the trip, and any knowledge gained. At a minimum, trip reports shall be prepared with the information provided in Section J, Attachment G.

C.5.1.9 SUBTASK 9 – PROVIDE QUALITY MANAGEMENT

The contractor shall identify and implement its approach for providing and ensuring quality throughout its solution to meet the requirements of the TO. The contractor shall provide a QMP (**Section F, Deliverable 08**) and maintain and update it as changes in the program processes are identified. The contractor's QMP shall describe the application of the appropriate methodology (i.e., quality control and/or quality assurance) for accomplishing TO performance expectations and objectives. The QMP shall describe how the appropriate methodology integrates with the Government's requirements.

The QMP shall contain at a minimum the following:

a. Performance monitoring methods.
b. Performance measures.
c. Approach to ensure that cost, performance, and schedule comply with task planning.
d. Methodology for continuous improvement of processes and procedures, including the identification of service metrics that can be tracked in the TO.
e. Government roles.
f. Contractor roles.
g. Methodology and tools for providing program management support, process management and control, project status and cost (including planned versus actual expenditures) reporting, and program metrics.
h. Approach to risk management, including the offeror's strategies to mitigate or eliminate risks.
i. Approach to coordinating and collaborating with other contractors to ensure risks are mitigated and a successful relationship results.

C.5.1.10 SUBTASK 10 – TRANSITION-IN

The contractor shall provide a Transition-In Plan (**Section F, Deliverable 07**) as required in Section F. The JAIC JWNMI TO is a new requirement; however, the contractor shall facilitate knowledge transfer of existing Government-Furnished Information (GFI) during Transition-In. The contractor shall ensure that there will be minimum service disruption to vital Government business and no service degradation during and after transition. The contractor shall implement its Transition-In Plan NLT 60 calendar days after TOA, and all transition activities shall be completed 50 calendar days after approval of the Transition-In Plan (**Section F, Deliverable 07**).

C.5.1.11 SUBTASK 11 – TRANSITION-OUT

The contractor shall provide transition-out support when required by the Government. The Transition-Out Plan shall facilitate the accomplishment of a seamless transition from the incumbent to incoming contractor/Government personnel at the expiration of the TO. The contractor shall provide a Transition-Out Plan within six months of Project Start (PS) (**Section F, Deliverable 16**). The contractor shall review and update the Transition-Out Plan in accordance with the specifications in Sections E and F.

In the Transition-Out Plan, the contractor shall identify how it will coordinate with the incoming contractor and/or Government personnel to transfer knowledge regarding the following:

a. Project management processes.
b. POCs.
c. Location of technical and project management documentation.
d. Status of ongoing technical initiatives.
e. Appropriate contractor-to-contractor coordination to ensure a seamless transition.
f. Transition of Key Personnel.
g. Schedules and milestones.
h. Schedule for product backlog prioritization and sprint planning meetings with specific dates and frequency.
i. Actions required of the Government.

The contractor shall also establish and maintain effective communication with the incoming contractor/Government personnel for the period of the transition via weekly status meetings or as often as necessary to ensure a seamless transition-out.

The contractor shall implement its Transition-Out Plan NLT six months prior to expiration of the TO.

C.5.1.11.1 PROGRAM OF RECORD (PoR) TRANSITION ROADMAP

The contractor shall prepare and update a PoR Transition Roadmap (**Section F, Deliverable 17**) for each product developed under the contract. The roadmap shall define the targeted deployment location, timeline, and all development milestones from product inception to fielding.

C.5.2 TASK 2 – PROVIDE AI ENGINEERING AND INTEGRATION SUPPORT

The contractor shall conduct and coordinate AI Engineering and Integration Support. This support shall include systems engineering, Agile software development, AI model development, system and data migration, system integration, system Test and Evaluation (T&E), hardware and network engineering services, and other engineering services. In addition, the contractor shall develop a process (**Section F, Deliverable 22**) for proposing, vetting, and executing future products within the existing product lines and any product lines that are developed under this TO.

C.5.2.1 SUBTASK 1 – DEVELOPMENT SUPPORT

The contractor shall provide development support including architecture support, systems engineering, software engineering development and integration, algorithm development, security

planning and compliance (including achieving Authority to Operate (ATO)), system level testing, and innovation development and implementation. Additional contractor development support shall include the following:

a. Standing up a development, integration, and test environment with a process for rapid development and enterprise-wide implementation, when necessary.
b. Enabling the ability to integrate and test Commercial Off-the-Shelf (COTS)/Government Off-the-Shelf (GOTS) products (as an entire solution or as part of an overall system solution).
c. Enabling the ability to quickly augment and enhance existing tools, applications, and methodologies to advance analytic efforts and maintain currency with changing terrorism milieu.
d. Developing the necessary Transition Planning (**Section F, Deliverable 23**) including user training, support staff training, and any applicable decommissioning activities for systems/services that have been replaced.

The contractor shall implement a system/software lifecycle management process (**Section F, Deliverable 24**), in coordination with the Government, to achieve a single lifecycle for the program that includes planning, designing, developing, integrating, and testing verification and validation activities applicable to both enhancement of current technologies and creation of new capabilities; that include automation, data science, big data analytics, data ingestion and manipulation, ML, emerging technologies, Publically Available Information (PAI) exploitation, social network analysis, alerting and warning, and advancing traditional analytic methods.

The contractor shall maintain flexibility for either a cloud or hybrid cloud approach in all migration of data, infrastructure, and application development. Solutions shall reflect that training data and AI development will be kept on the JCF.

The contractor shall support product management and systems engineering activities including concept definition, system architecture development, system design, user engagement activities, operational and system requirements development and management, external and internal interface management, systems certification, mission engineering, metrics collection and analysis, modeling, and simulations.

C.5.2.1.1 DEVELOPMENT, SECURITY, AND OPERATIONS (DEVSECOPS)

DevSecOps is an organizational software engineering culture and practice that aims at unifying software development (Dev), security (Sec) and operations (Ops). The main characteristic of DevSecOps is to automate, monitor, and apply security at all phases of the software lifecycle: plan, develop, build, test, release, deliver, deploy, operate, and monitor. In DevSecOps, testing and security are shifted to the left through automated unit, functional, integration, and security testing.

The contractor shall identify and apply modern DevSecOps best practices that provide for secure and continuous development, test, and, operations activities. The contractor shall establish a continuous integration, delivery, and user feedback methodology resulting in systematic, repeatable, secure, and streamlined delivery of capabilities to the production environments. The contractor will comply with the DoD Enterprise DevSecOps Reference Design where possible and notify the government in writing otherwise.

The contractor shall provide comprehensive documentation (**Section F, Deliverable 25**) and information necessary to monitor the DevOps processes, procedures, and/or policies that were implemented in the creation of the applications.

C.5.2.2 SUBTASK 2 – AGILE SOFTWARE DEVELOPMENT

The contractor shall use agile methodologies for software development, where the development is organized into one or more releases consisting of multiple sprints. The contractor shall define the frequencies and durations of the releases and sprints during project planning and submit for approval by the JAIC TPOC. The contractor shall provide weekly progress updates and demonstrations to the Government and shall update the contractor schedule for the Weekly Status Report (WSR) (**Section F, Deliverable 26**).

During project planning, the project defines team structure, development environment, system requirements, and mission interaction; and, the contractor shall review the architectural specification, high-level system design, and current supporting processes. The contractor shall deliver a Development Sprint Plan (**Section F, Deliverable 27**) to document the design approach, Agile code development, integration, test, quality, and configuration control processes and procedures that will be utilized in the project, involving mission elements to verify design, functionality, and implementation plans.

The contractor shall coordinate with the Government, as required, during project preparation or development sprints for the performance of tasks including:

a. Identifying and setting up all necessary tools to support the development and management activities.
b. Identifying processes and plans for mission interaction to understand mission needs, gather requirements, validate design and planning implementation, acquire feedback, and deliver products and capabilities commensurate with mission needs and priorities.
c. Establishing the most effective agile framework.
d. Defining processes such as code control, daily builds, and regression tests.
e. Defining or updating processes and procedures for configuration control.
f. Coordinating with IT security and preparing or updating security-related documentation.
g. Setting up and testing the integrated development environment and other development tools.
h. Defining processes for documenting user stories, business priorities, and planned enhancements with the estimated effort for each requirement.
i. Producing or updating the interface control document and interface design document(s) to identify and characterize all the external interfaces.
j. Producing or updating the System Design Document (SDD) (**Section F, Deliverable 28**), including system architecture design and the design of external interfaces to be extensible and scalable.
k. Producing or updating the Database Design Document (DBDD) (**Section F, Deliverable 29**) and documenting the logical database schema.
l. Producing or updating the Test and Evaluation Master Plan (TEMP) (**Section F, Deliverable 30**).

m. Identifying the list of software tools, licenses, and hardware needed by the team for development and documentation in the Bill of Materials (BOM) (**Section F, Deliverable 31**).
n. Producing or updating the User Training Plan (**Section F, Deliverable 32**).

The contractor shall support portfolio backlog planning to support the Government's long range program objectives. The contractor shall develop a Release Plan (**Section F, Deliverable 33**) based on product backlog priorities set by the Government and aligned with a product roadmap that documents the schedule and contents of proposed system releases for deployment. The contractor shall coordinate with the Government and update the release plan prior to each release deployment.

The contractor shall coordinate with the Government and conduct sprint planning meetings to plan each sprint based on backlog priorities, estimated effort required, and the scope and resources available during the sprint. The contractor shall document the planned requirements for the sprint in the sprint backlog.

In conducting Agile sprints, the contractor shall complete tasks including:

a. Defining the schedule for all Agile ceremonies and provide to the Government for attendance, depending upon availability.
b. Designing and coding the system to meet the requirements documented in the sprint backlog.
c. Demonstrating each Sprint release to the Government and mission owner for approval to deploy to the testing environment.
d. Developing the system and interface test procedures, test cases, and test data in accordance with the TEMP. The test procedures shall include test pre-conditions, test sequences, and anticipated results/assertions.
e. Updating the Requirements Traceability Matrix (**Section F, Deliverable 34**).
f. Performing functional tests and documenting the test results. The functional tests shall address the verification that all requirements, specified in the sprint backlog, have been met.
g. Conducting a sprint review/retrospective on the final day of the Sprint, including final accounting of user stories planned, completed, added, and deferred with demonstrations of functionality completed during the sprint.

The contractor shall conduct a sprint review to update and re-prioritize a product backlog based on Government direction and as appropriate. The Sprint review shall include reviewing technical details of features developed in the sprint, documenting lessons learned, documenting development metrics, and updating a product backlog, as required. A summary of the results of the Sprint review, identifying the technical accomplishments of the sprint cycle, shall be documented in a Sprint Summary Report (**Section F, Deliverable 35**) and described in non-technical terms. The Sprint Summary Report shall include user stories as well as planned, completed, added, and deferred results.

C.5.2.3 SUBTASK 3 – AI MODEL DEVELOPMENT AND TRAINING

The contractor shall develop and train AI models (**Section F, Deliverable 36**) that solve the issues outlined by each of the product lines (Section J, Attachment P). As part of its process, the

contractor shall research vendors providing specialized skills that may not have been used historically by the DoD for delivering AI capability. As part of the process, the contractor shall develop processes to discover emerging technologies and algorithms (**Section F, Deliverable 37**) for AI model development and training. The goal is to discover the highest quality AI models and methodology for AI problem solving. The contractor shall work with JW personnel to define objectives and assessment metrics for specific projects.

AI model development for all JW projects within this TO shall include:

a. Clear and descriptive model definitions defining model usage, model constraints, data lineage to training and testing data sets along with processes for each, clear links to testing and test results, model versions history with retrievable older versions, and clear change definition between versions.
b. A continuous pipeline to deliver disruptive AI capabilities and leverage approaches from the latest AI vendors. The contractor shall provide software development technical expertise related to AI and ML.
c. References to T&E processes and procedures showing how the model is tested; results; and defined Tactics, Techniques, and Procedures (TTP) (**Section F, Deliverable 38**) to use the model successfully in fielded systems.
d. Application Programming Interface (API) definitions (**Section F, Deliverable 39**) for model input, model output, and expected performance and results based on test data sets.
e. Designed performance requirements as well as performance results tied to data sets and hardware configurations.
f. Defined process and triggers (**Section F, Deliverable 40**) for new model training and deployment for usage in fielded systems.

C.5.2.4 SUBTASK 4 – SYSTEM AND DATA MIGRATION

The contractor shall provide system and data migration services from the JAIC JCF development environments to the deployment environments, including:

a. Preparing a System Migration Plan (**Section F, Deliverable 41**); documenting plans for migrating data, application containers, and system operation; and integrating new components into existing programs or replacing programs.
b. Preparing migration procedures (**Section F, Deliverable 42**) that describe the steps and activities required to complete migration.
c. Developing back-out procedures (**Section F, Deliverable 43**) required to return the application to a previous operational state, in the event that a difficulty is encountered in one or more steps during the migration.

C.5.2.5 SUBTASK 5 – SYSTEMS INTEGRATION

The contractor's system integration approach shall support the rapid and efficient insertion and refreshment of technology through a modular design and the use of open standards and open interfaces. The contractor, in conjunction with the Government, shall define the functional partitioning and the physical modularity of the system to facilitate future replacement of specific subsystems and components by third parties without impacting other parts of the system.

The system integration architecture shall minimize inter-component dependencies to allow components to be decoupled. Specifically, the contractor's integration approach shall result in modules that have minimal dependencies on other modules (loose coupling) with widely accepted and well-defined standards-based interfaces and by the absence of undocumented data sharing or service calls. The contractor shall specify, publish, and maintain widely accepted and well-supported open standard interfaces for all modular integration. The purpose is to ensure that any changes to one module will not necessitate extensive changes to other modules and, hence, facilitate module replacement and system enhancement. The contractor shall describe its approach to determine the level of coupling and the design trade-off approach. Additionally, the contractor shall be responsible for system wide Data Mapping and Data Management services, which include the facilitation, orchestration, and management of a multi-faceted data environment (potentially polyglot/multi-model) as well as optimizing the data environment to support scalability and performance.

The contractor shall provide the Government information (**Section F, Deliverable 44**) needed to support third-party development and delivery of competitive alternatives of design for software or other components or modules on an ongoing basis. The contractor shall also work closely with the Government and third-party providers to maximize module re-use and determine how to best leverage system and module services by enabling those capabilities to be broadly available to other developers as well as identify any issues with scalability, latency, licenses, or other issues that could interfere with the efficient use of a service. At the same time, the contractor shall respect and work to protect all intellectual property rights of third party providers through Associate Contractor Agreements (ACA) as defined in Section H.18.

The contractor shall provide systems integration services, including the following:

a. Identifying component subsystems of the overall system and determining the requirements for ensuring that the subsystems work together to function as a single system, including integration paths for partner agency data, both regularly shared and ad-hoc in nature, to enable rapid exposure to analysts.
b. Planning, documenting, and maintaining solutions (**Section F, Deliverable 45**) to total systems or subsystems that use internally created and/or COTS products.
c. Providing a total system perspective (**Section F, Deliverable 46**) including relationships, dependencies, and requirements of hardware and software components.
d. Researching COTS and GOTS solutions to solve integration problems and/or meet system requirements.
e. Ensuring that the mission applications/tools, web systems, and portals integrate effectively with existing enterprise systems and data stores with the goal of maintaining a well-connected, secured, and controlled enterprise of systems that maintains high systems availability with rapid development and exposure to analysts.
f. Ensuring services development follow the structured development, test, and release management processes in addition to stringent change management and configuration control and enforcement of SLAs. Identifying, developing, coordinating, maintaining, delivering, and updating required interface specifications, including the definition of services, data flows, and dependencies for internal and external service providers.

g. Integrating and optimizing workflow, automation, manual processes (where necessary), and feedback loops across the DevOps environment and with mission owner elements to enable automated, continuous capability delivery to mission.

C.5.2.6 SUBTASK 6 – TEST AND EVALUATION (T&E) SERVICES

The contractor shall provide T&E services of the AI models against metrics determined prior to model development and provide testing of the final integrated product. Where possible, the activities shall be answered within the agile development framework for system development in conjunction with the JAIC T&E team.

For AI models, T&E will occur once selected models are promoted for use, to ensure the model meets all defined metrics. Models will also be evaluated against the DIB ethical principles outlined in the Secretary of Defense Guidance Memo during this promotion stage.

The contractor shall provide engineering support required to review, assess, and analyze all levels of system documentation to identify and define test requirements. Requirements and design specifications, test plans and procedures, test results, logistics training documentation, and change proposals shall be reviewed. The contractor shall provide Requirements Traceability and Change Impact Assessments (**Section F, Deliverable 47**) in close coordination with the JAIC T&E team. The contractor shall conduct unit and integration testing prior to delivery, but T&E will be conducted through the JAIC T&E team with outside support, if necessary.

The contractor shall evaluate test coverage with respect to test type, test validity, test scenarios, test conduct, test results, and problem report content. The goal is to reduce the number of defects or problems reported at integrated combat systems with AI capabilities by continually improving software verification level test methods.

The contractor shall plan, conduct, participate, and execute T&E activities including:

a. Developing, revising, and maintaining Test Plans (**Section F, Deliverable 48**) in coordination with the JAIC T&E team.
b. Updating the test plans to reflect changes to existing tests due to enhancements or deficiency corrections.
c. Setting up the test environment, including the setup and breakdown of test equipment and systems.
d. Executing tests according to the test plans and test procedures and collecting test data.
e. Documenting deficiencies via problem reports and providing a Final Test Report (**Section F, Deliverable 49**).

The contractor shall analyze T&E data and perform the following:

a. Provide a Deficiencies Assessment (**Section F, Deliverable 50**) of deficiencies uncovered during testing including support of root cause analysis and solution recommendations.
b. Provide a Test Procedure Improvements Recommendation (**Section F, Deliverable 51**) to facilitate improved deficiency detection.
c. Assess the impact to other system components of deficiencies uncovered during testing.
d. Perform Trade-off and Analysis of Alternatives Assessments (**Section F, Deliverable 52**).

e. Provide test artifacts, objective quality evidence, and detailed analysis results.

The contractor shall conduct, participate, or provide witness in system ship-based and land-based T&E, certification, and training events to be held at Government or non-Government venues, as needed. Events shall include the following:

a. Developer/Capability Test.
b. Integrated Software/System Level Test.
c. Formal Qualification Test (FQT).
d. Verification and Validation (V&V) Test.
e. Software Build FQT.
f. Segment/System Test.

C.5.2.7 SUBTASK 7 – HARDWARE AND NETWORK ENGINEERING SERVICES

The contractor shall design, build, and integrate Required Hardware (**Section F, Deliverable 53**) as required for the development of innovative JW products. The contractor shall integrate the hardware with the software developed under Sections C.5.2.2 and C.5.2.3, as applicable, as well as ensure that all systems and applications are fully integrated into systems, architectures, and networks.

The contractor shall support all communications platforms including ground-based vehicular, maritime, and airborne platforms. Communications link bandwidth to support development, testing, integration demonstration, and Initial Operational Capability (IOC) will be funded by the JAIC.

C.5.2.8 SUBTASK 8 –JCF DEVELOPMENT ENVIRONMENT

The contractor shall utilize the Government-provided JCF development environment for all development activities surrounding AI development, including model development and training and all data set curation. The contractor shall develop Trained AI Models (**Section F, Deliverable 54**), data used in training those models (**Section F, Deliverable 55**), and all Software and Configurations (**Section F, Deliverable 56**) created as part of this activity, including infrastructure as source code. With the exception of proprietary algorithms, which will be trained by Government data and produce Government-owned and distributable models, the contractor shall not use proprietary code without express approval from the Government.

Software maintenance and updates (**Section F, Deliverable 58**) for software developed in the JCF shall be provided in accordance with the latest Development, Security, and Operations (DevSecOps) Reference Guide. The Government may provide limited training via third-party to contractor personnel for AI/ML DevSecOps pipeline development and software development, test, and production. The contractor shall be responsible for any customizations of the established DevOps or DevSecOps pipelines provided within the JCF. To the maximum extent possible, the contractor shall employ open container standards (open industry standards around container formats) and utilize cloud-native toolsets when on-boarding, deploying, or transitioning AI/ML-enabled software products.

C.5.2.9 SUBTASK 9 – OTHER ENGINEERING SERVICES

C.5.2.9.1 CONFIGURATION MANAGEMENT (CM)

The contractor shall provide CM support at the program, project, system of systems, system, and subsystem levels. The contractor shall provide a CM Plan (**Section F, Deliverable 59**) that is adjusted as projects progress and addresses the following:

a. Establishing and maintaining program and project-level configuration management technical data repositories tracking Engineering Change Proposals (ECPs), Problem Reports (PRs), Requests for Waivers (RFWs), Requests for Deviations (RFDs), Specification Change Notices (SCNs), Notice of Revisions (NORs), and other configuration item data and requests. The contractor shall maintain and operate web-based CM server repositories.
b. Generating and reviewing configuration item change documentation including ECPs, RFDs, RFWs, SCNs, and NORs.
c. Organizing program, project, and Integrated Project Team (IPT) level documentation into repositories, including web-based repositories, and maintaining the repositories to facilitate documentation storage and retrieval.
d. Participating in the CM process by maintaining controlled and versioned documentation in accordance with the program or project CM plan.
e. Providing process improvement suggestions towards the program or project CM plan.
f. Providing CM support by delivering all Government-approved test artifacts (i.e., plans, procedures, and reports) to the designated CM authority.
g. Providing CM services for Assessment and Authorization (A&A) documentation and processes including developing technical network architecture drawings, developing hardware and software documentation, and documenting network change information.

C.5.2.9.2 SAFETY ENGINEERING

The contractor shall provide safety engineering, which includes the following:

a. Performing safety engineering, conducting risk/hazard/mitigation analyses, and implementing safety processes in line with Military Standard 882-E or the appropriate level based on the project contents.
b. Coordinating, augmenting, and synchronizing efforts with program office safety engineering teams.
c. Developing artifacts (**Section F, Deliverable 60**) and presenting findings and status to military safety certification boards.

C.5.2.9.3 HUMAN-SYSTEMS INTEGRATION, COGNITIVE SCIENCE, AND USER EXPERIENCE

The contractor shall provide human-systems integration/cognitive science/user experience services. AI/ML development will result in significant changes to systems and processes. To support those changes, it may be necessary to rethink and update the users' experience and human machine interface. The contractor shall update the interface points and user interface that may be provided. Updates include:

a. Developing, maintaining, delivering, and executing a comprehensive plan for customer outreach (**Section F, Deliverable 61**).
b. Defining the plans, processes, and methods for managing coordination (**Section F, Deliverable 62**) and communications with the stakeholder community.
c. Supporting both broad and targeted stakeholder coordination and communication of relevant activities, schedules, testing, and service capabilities to increase awareness, build customer confidence, and improve customer satisfaction levels.
d. Developing the plans, processes, tools, and techniques to collect community/user feedback and customer satisfaction (e.g., surveys and questionnaires), analyze and assess results, identify and recommend opportunities for continuous improvement, and report results and recommendations back to the Government (**Section F, Deliverable 63**).
e. Characterizing and defining human factors and interfaces of hardware and software designs as well as monitoring and summarizing human-related requirements in DoD systems (**Section F, Deliverable 64**).
f. Researching, analyzing, and developing recommendations (**Section F, Deliverable 65**) as applicable to integrating human physical and cognitive performance capabilities with AI system of systems.
g. Analyzing and assessing state-of-the-art technologies that influence the overall performance of the human components of the system.

C.5.2.9.4 CYBERSECURITY, INFORMATION ASSURANCE (IA), AND A&A

The contractor shall provide cybersecurity, IA, and A&A services. The contractor shall provide a Certifying Agent Representative (CAR) for each product developed under this TO. The contractor-provided CAR will assist in the preparation of the accreditation documentation for submission to the JAIC Information Systems Security Manager (ISSM) or other program-specific Designated Approving Authority (DAA), utilizing the appropriate DoD accreditation standards, policies, and directives. The CAR activities include:

a. Ensuring that activities are in compliance with current guidance for administrators and users relating to the policies, procedures, and controls required by DoD standards for A&A processes and supporting and interfacing with the local IA Officer (IAO) to ensure compliance with current Government IA regulations.
b. Developing security penetration test plans (**Section F, Deliverable 66**), security test specifications (**Section F, Deliverable 67**), security test procedures (**Section F, Deliverable 68**), and security test reports (**Section F, Deliverable 69**) specific to the AI/ML models and APIs produced.
c. Supporting cybersecurity-related administration tasks, including system remediation, configuration, and development of A&A documentation.
d. Providing system initialization, deployment, accreditation, and system administration functions for all unclassified and classified AI model containers including:
    1. Performing system patching.
    2. Supporting DoD standards for A&A processes and procedures (e.g., Risk Management Framework (RMF) and Platform IT (PIT)).
    3. Implementing and validating Security Technical Implementation Guidelines (STIG) requirements, installation checklists, and other security process requirements.

C.5.2.9.5 WAR GAMING

The contractor shall provide futures analyses and capabilities war gaming services including:

a. Identifying disruptive AI-enabled solutions for the near-term and future fight.
b. Supporting joint threat engineering and capability gap analyses to inform the JAIC.
c. Organizing, supporting, and/or participating in symposia/workshop, working groups, and other DoD forums to support futures analysis and war gaming.

C.5.3 TASK 3 – DATA LABELING AND PIPELINE MANAGEMENT

The contractor shall manage the data labeling and data pipeline for all aspects of the JWNMI effort. The JWNMI is establishing a data acquisition and labeling pipeline to provide support to all products. All projects will utilize this pipeline for data cleansing, labeling, and management. The pipeline will provide data declassification, break data into pieces suitable for labeling, label platforms, and provide data management software to assist in the labeling and data set curation process.

The contactor shall leverage the existing JWNMI data acquisition platform to:

a. Provide the full range of Data Description Reports (**Section F, Deliverable 70**) to assist in the AI model development lifecycle, data collection and description, data acquisition plans, necessary Memorandums of Understanding (MOUs) and Memorandums of Agreement (MOAs) defining data relationships, data set description documents, data curation processes, data set creation criteria, and data cards describing final usable data sets.
b. Make necessary updates to data ontologies used to support product lines based on acquired data and the associated updates to the data management platform.
c. Develop labeling ontologies (**Section F, Deliverable 71**) to ensure data sets are capable of supporting AI model development.
d. Label the data in accordance with the labeling ontologies and processes resulting in clean and usable data sets.
e. Provide support during problem framing, defining necessary data sets and data fields to provide desired solutions to the war fighter.

The contractor shall develop AI data cards (**Section F, Deliverable 72**) for all data sets used for model training and development. The contractor shall develop and manage the data cards in accordance with the Government-provided process.

For new projects, new data sets and data sources may need to be identified within or external to the DoD. This data must be brought into the JCF environment and pushed through the labeling pipeline. The contractor shall provide support and services, as needed, to assist the JWNMI team in data identification, development of the necessary MOU and MOA to facilitate data acquisition, and data ingestion into the pipeline, in addition to the services listed above.

C.5.4 TASK 4 – PROVIDE PROGRAM INTEGRATION, TRAINING, AND END USER SUPPORT

The contractor shall support the integration of AI/ML products within existing and new programs or platforms. The integration support shall include training and end-user support on

those products. This support shall be tailored by the contractor on a product-by-product basis with direction from the Government and documented in the PMP for the product (**Section F, Deliverable 73**). The contractor shall leverage new training methods and technologies in order to replace existing, in-person classroom training. The contractor shall ensure that users are able to learn a system properly and employ the system through the simplification of the user interface. Gaps in intuitive learning shall be augmented by innovative solutions including searchable message boards, chats with experts, and in-software help widgets.

The contractor shall deliver the following capabilities, as required by the Government, for each product:

a. Support all AI/ML product customer-support tasks in both Continental United States (CONUS) and Outside CONUS (OCONUS) locations.
b. Assist the operational unit to reach and sustain a fully capable platform for each project.
c. Install and integrate the uniquely developed systems.
d. Provide training, technical support, and repair during testing and operational assessment post-deployment.
e. Provide training, technical support, and repair of the unique systems in a theater of operations.
f. Facilitate dataset aggregation and transfer back to the JAIC.
g. Define the plans, processes, and methods for managing coordination and communications with the stakeholder community.
h. Develop training materials (**Section F, Deliverable 74**) and solutions for each product, leverage existing training plans, where appropriate, but also leveraging new technology to update how training for the product occurs.
i. Develop the plans, processes, tools, and techniques to collect community/user feedback and customer satisfaction (e.g., surveys and questionnaires), analyze and assess results, identify and recommend opportunities for continuous improvement, and report results and recommendations to the Government (**Section F, Deliverable 75**).

C.5.4.1 SUBTASK 1 – SYSTEM AND USER SUPPORT

The contractor shall provide system and end-user support on a product-by-product basis. These services shall be included in the PMP for the product in concert with the deployment and sustainment stakeholder engagement. The contractor shall provide system and user support, including the following:

a. Outreach and relationship management to support Agile and DevOps environments including:
    1. Developing, maintaining, delivering, and executing a comprehensive plan (**Section F, Deliverable 76**) for customer outreach.
    2. Defining the plans, processes, and methods (**Section F, Deliverable 77**) for managing coordination and communication with the stakeholder community.
    3. Supporting both broad and targeted stakeholder coordination and communication of relevant activities, schedules, testing, and service capabilities, to increase awareness of customer confidence and improve customer satisfaction levels.

4. Developing the plans, processes, tools, and techniques to collect user feedback and customer satisfaction (e.g., surveys and questionnaires); analyzing and assessing results; identifying and recommending opportunities for continuous improvement; and reporting results and recommendations (**Section F, Deliverable 78**) to the Government.

b. Mission engagement and operations planning including:
   1. Supporting the critical linkage between customer mission planning and IT support planning including understanding mission operations and needs, mission-owner element testing prior to deployment, and user feedback mechanisms.
   2. Exercising support planning.
   3. Analyzing operational performance measurements and associated trends to ensure services meet customer missions, goals, and objectives.

c. Access management including:
   1. Recommending and implementing an access management process (**Section F, Deliverable 79**) that establishes processes and creates and maintains user accounts for mission applications.
   2. Establishing, processing, creating, and maintaining user accounts for prototype and developmental systems.

d. Event management including:
   1. Recommending and implementing an event monitoring process (**Section F, Deliverable 80**) that monitors system breaches and logs and tracks events for applications and services.
   2. Escalating events, when applicable, to incidents or problems and recording when they are addressed and closed.
   3. Monitoring the network and supporting infrastructure for breaches, logs, and tracking events.

e. Request fulfillment including:
   1. Recommending and implementing a request fulfillment process (**Section F, Deliverable 81**) that responds to user requests in a timely manner.
   2. Maintaining operational level configuration items including application documentation, training materials, system design documentation, and/or application operation start up/power down procedures.

f. Incident management including:
   1. Recommending and implementing an incident management process (**Section F, Deliverable 83**).
   2. Providing initial incident analysis and initiating initial support.
   3. Handing off to additional support if the fault cannot otherwise be fixed.
   4. Increasing the resources if there is a danger of failing to meet the agreed service levels.
   5. Fixing the fault and restoring the service.
   6. Evaluating incidents and preparing reports on service improvements.

g. Problem management including:

1. Providing a process (**Section F, Deliverable 84**) that accounts for reactive, proactive, and preventative activities.
2. Recommending and implementing a problem management process.
3. Providing problem management during normal business hours (8:00 a.m. Eastern Time (ET) – 5:00 p.m. ET) with a phone recall during non-standard hours (i.e., weekends and Federal holidays) including:
   i. Problem handling.
   ii. Error handling.
   iii. Incident support.
   iv. Proactive problem management that includes measures of error prevention, trend analyses, actions and measures, and preparation of quality reports (**Section F, Deliverable 85**).

C.5.5 TASK 5 – ACCELERATION OF EMERGING AI TECHNOLOGIES RESEARCH AND INTEGRATION

The contractor shall support the JAIC capability gap analysis and studies to facilitate technology scouting efforts in all areas of AI technology, including hardware and software. The contractor shall conduct technology scouting, in partnership with the JAIC, to identify innovative non-commercial, commercial, and GOTS solutions that will further the mission of the JAIC and the JWNMI. The contractor shall provide Emerging Technology Recommendations (**Section F, Deliverable 86**) to facilitate the integration by the contractor into the program baseline. The contractor shall develop a structured process (**Section F, Deliverable 87**) to evaluate and recommend hardware, software, and services to meet specific requirements; adjusting the methodology, when warranted, including prototypes and pilots to address risk.

C.5.6 TASK 6 – JCF INFRASTRUCTURE SUPPORT (OPTIONAL)

If required, the contractor shall provide the infrastructure necessary for integration of AI models into existing systems in a location determined by the Government. The contractor shall standup and maintain environments on a product-by-product basis to assist in integration activities if the Government is unable to provide suitable infrastructure for these tasks.

The contractor shall ensure that no development is done outside of the Government network without express approval from the Government. The contractor shall provide a temporary architecture using a Government-owned infrastructure to support development in the event that the JCF is not operational at any period during the TO. If the JCF is not operational, the contractor shall provide recommendations (**Section F, Deliverable 57**) for alternative commercial Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS) capacity, services, and usage as applicable. Additionally, the contractor shall provide specific licensing requirements necessary for the development, testing, and production environments required for product development and integration.